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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,960	06/14/2001	Peter Hagerlid	A33846-PCT-	5244

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EXAMINER

SISSON, BRADLEY L

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/719,960	Applicant(s) HAGERLID ET AL.	
	Examiner Bradley L. Sisson	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23,24 and 27-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23,24 and 27-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 23, 24, and 27-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,104,621 (Pfoest et al.), in view of US Patent 6,263,095 (Rushbrooke et al.), and US Patent 6,214,246 (Craighead).
5. For purposes of examination, the "sample receptacle" of claim 23, has been interpreted as encompassing virtually any means on or through which a sample can be monitored. The "plate" of claims 24 and 46 has been interpreted as encompassing virtually any plate, including a microtitre plate, which is recognized as comprising wells. Said claims have also been interpreted as encompassing, but not requiring, simultaneous measurement of optical signal from a plurality of reaction sites.
6. Pfoest et al., disclose at length an apparatus that can be used in combination with any of a variety of samples, *inter alia*, 96-well or microtitre plates. The device comprises a plate for sample receptacles, dispensing means to deliver the sample and/or reagents to the various wells. Illumination means, optical detection means and data storage and analysis means.
7. Column 29, lines 47-51, disclose that it is at the discretion of the user to record measurements taken and to have them displayed and/or printed.
8. The optical sensing means can be used to measure liquid level, optical density, but also signals generated from a reaction that has taken place in one or more sample receptacles. Fiber optics may be used to deliver one or a plurality of light beams to the various wells.
9. Column 15, fourth paragraph, discloses using a lens to focus the light onto the surface of an optical sensor.
10. Column 7, last paragraph, discloses using an optical transducer, which can be a "video camera." Such disclosure meets the limitation of the optical transducer being a charged coupled

device. The aspect that the optical transducer is coupled to a microprocessor and optionally a remote computer (column 12; and column 13, third paragraph) reasonably suggests that the signal so produced is digital; a limitation of claim 33.

11. While Pfost et al., disclose connecting light sensing means to a computerized receiver (e.g., a video camera (column 7, last paragraph) and optical sensor (column 15, lines 54-55) and processing means, which in turn speaks of rendering the detected light signal into a digital format, Pfost et al., do not teach explicitly of using a charge-coupled device.

12. Rushbrooke et al., teach at length use of a charge-coupled device (CCD) so to detect, measure, and evaluate light signals resulting from various chemical/biological assays. The aspect of using such technology in combination with sample receptacles such as a 96-well plate is disclosed in column 11.

13. Rushbrooke et al., column 2, disclose that the system is arranged such that each sample is interrogated a plurality of times and that the data is stored and later processed. Such a disclosure meets, if not anticipates, the limitation of the “recorder in connection with said light intensity level determination device” (claim 23), “charge-coupled device” (claim 30), and “light level determination device” (claim 46).

14. Rushbrooke et al., column 3, penultimate paragraph, teach explicitly of simultaneously monitoring a plurality of samples

15. Rushbrooke et al., column 7, disclose the aspect of having a given signal producing area assigned or targeted to “predetermined regions of said optically sensitive transducer.”

16. Craighead disclose a device comprising an array of reaction sites where simultaneous readouts are obtained for a plurality of said reaction sites.

17. In view of the prior art teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the accuracy of a CCD with the apparatus of Pfoest et al., such that luminescent signals generated in response to chemical or biological assays are detected with greater accuracy as taught by Rushbrooke et al. It would have also been obvious to said ordinary artisan to have arranged the device and CCD such that multiple reaction sites could be monitored in a simultaneous manner as such was disclosed by Craighead. For the above reasons, and in the absence of convincing evidence to the contrary, said claims 23, 24, and 27-46 are rejected under 35 USC 103(a) as being rendered obvious by the prior art of record.

Response to argument

18. At page 6 of the response of 20 December 2002, hereinafter the response, asserts that the prior art fails to teach "the simultaneous monitoring of a plurality of reaction sites using a single optically sensitive transducer." The above argument has been fully considered and has not been found persuasive towards the withdrawal of the rejection as Rushbrooke et al., column 3, penultimate paragraph, teaches explicitly of monitoring "a number of different samples simultaneously" with a single CCD.

19. Argument is advanced that "none of the references, alone or in combination, teach or suggest an apparatus having means for recording the variation of light intensity level over time for each sample." Said argument has been fully considered and has not been found persuasive. Rushbrooke et al., column 3, teach recoding multiple values for a plurality of positions whereby variations in intensity are determined. Accordingly, the prior art of record does teach the limitations of the claimed invention.

20. For the above reasons, and in the absence of convincing evidence to the contrary, claims 23, 24, and 27-46 are rejected under 35 USC 103(a).

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley L. Sisson whose telephone number is 703-308-3978. The examiner can normally be reached on Monday through Thursday from 6:30 AM to 5 PM.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 703-308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

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25. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1234.

A handwritten signature in cursive script, appearing to read "B. L. Sisson".

Bradley L. Sisson
Primary Examiner
Art Unit 1634

BLS
September 19, 2003